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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/366,299	08/02/1999	SEOK-JIN HAM	678-318(P882	2887

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EXAMINER

NGUYEN, TU X

ART UNIT

PAPER NUMBER

2682

DATE MAILED: 03/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

① A
② B

Specific

Common

Office Action Summary	Application No.	Applicant(s)	
	09/366,299	HAM, SEOK-JIN	
	Examiner	Art Unit	
	Tu X Nguyen	2682	

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) ____ is/are pending in the application.

4a) Of the above claim(s) ____ is/are withdrawn from consideration.

5) Claim(s) ____ is/are allowed.

6) Claim(s) 1-26 is/are rejected.

7) Claim(s) ____ is/are objected to.

8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.

4) Interview Summary (PTO-413) Paper No(s) ____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: A person shall be entitled to a patent unless –(e) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
2. Claims 8-10, 23-26 are rejected under 35 U.S.C. 102(e) as being unpatentable over Smith (US Patent 5,710,807).

As to claim 8, Smith discloses a method of billing service in a telecommunication network, comprising the steps of:

calculating a service suspended period whenever a service suspension occurs during a service and accumulating service suspended periods (see col.4 lines 2-3); and
Constructing billing data, including a final service suspended period being the accumulated value of service suspended periods and sending the billing data to a billing processor, when the service ends. (see col.2 lines 11-17).

Smith does not mention that the telecommunication network in which the billing service is used is a cellular network. However, that the billing method as taught by Smith could have been adapted to be used in a cellular network since cellular network is just one kind of well known telecommunication network.

As to claim 9, Smith discloses everything as claim 8 above, Smith further discloses wherein the service suspended period is the difference between a service suspension start time and service resuming time (see col.1 lines 52-63), noncommunicating states corresponding to duration of service suspension start time and end time.

As to claim 10, Smith discloses everything as claim 9 above, Smith further discloses wherein the service suspended period is the difference between the service suspension start time and service end time (see col.1 lines 52-63) noncommunicating states corresponding to duration of service suspension start time and end time.

As to claim 23, Smith discloses a billing method in and electronic switch comprising the steps of:

counting the number of service suspension occurrences generated during a service, constructing billing data including the count value, and sending the billing data to a billing processor, via a call processor (see abstract).

Producing a total service suspended period by multiplying the number of service suspension occurrences by an average service suspended period, subtracting the total service suspended period from an overall service period, and billing a subscriber for a resulting normal service period (see col.3 lines 30-37).

As to claim 24, Smith discloses a billing method in an electronic switch, comprising the steps of: calculating a service suspended period during a service in progress; and billing a subscriber for a normal service period resulting from subtracting the calculated service time period from an overall service period (see col.1 lines 54-56).

As to claim 25, Smith discloses everything as to claim 24 above, Smith further discloses wherein the service suspended period is the difference between a service suspension request time and a service resuming request time during a service in progress (see col.1 lines 54-57).

As to claims 26, Smith discloses everything as claim 25 above, Smith further discloses wherein the overall service period is the difference between a service initiation request time and a service termination request time (see abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **1-3, 6-7, 16, 19-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Patent 5,710,807) in view of Renton (US Patent 5,233,642).

As to claims **1** and **16**, Smith discloses a method of billing service in an electronic switch in a cellular network, comprising the steps of:

Setting a service suspension request time as a service end time upon generation of a service suspension request during the service and suspending the service (col.1 lines 10-13).

Sending billing data including the service start time and the service end time in the service suspended state, and determining whether a service resumption request is generated; and ending the service when a service termination request is generated in the service suspended state (see col.4 lines 13-16).

Smith discloses everything as claimed above, however Smith fails to explicitly disclose a method of billing service in an electronic switch in a cellular network, comprising setting a time when a service initiation request

In an analogous art, Renton discloses wherein it is advantageous to include a method of billing service in an electronic switch in a cellular network, comprising setting a time when a service initiation request (see col.2 lines 27-29). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Smith such that a method of billing service in an electronic switch

in a cellular network, comprising setting a time when a service initiation request for the purpose of the billing detail providing better detail information to consumer.

As to claim **2**, Smith discloses everything as claim 1 above, Smith further discloses wherein the service initiation request is generated when an outgoing call is answered (see col. lines 30-31).

As to claim **3**, Smith discloses everything as claim 1 above, Smith further discloses wherein the service initiation request is generated when an incoming call is answered (see col. lines 30-31).

As to claims **6-7**, Smith discloses everything as claims 2 and 16 above, Smith further discloses wherein the service termination request is generated from one of two subscribers in communication (see col.3 lines 26-29).

As to claim **19**, Smith discloses everything as claim 16 above, Smith further discloses wherein the service suspended period is the difference between a service suspension start time and service suspension end time (see col. 1 lines 52-63) noncommunicating states corresponding to duration of service suspension start time and end time.

As to claim **20**, Smith discloses everything as claim 19 above, Smith further discloses wherein the service suspended period is the difference between a service suspension start time and service end time (see col. 1 lines 52-63) noncommunicating states corresponding to duration of service suspension start time and end time.

5. Claims **4-5**, and **17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Azuma et al. (US Patent 5,898,763).

As to claims **4-5** and **17-18**, Smith discloses everything as claims 1 and 16 above, however Smith fails to explicitly disclose a method of billing service in an electronic switch in a cellular network wherein the service suspension signal is sent by the BSC to notify that a frames are not normally transmitted or a frame transmission resumes.

In an analogous art, Azuma et al. disclose wherein it is advantageous to include a method of billing service wherein a frames are not normally transmitted and a frame transmission resumes (see col.5 line 43-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Smith such that a method of billing service wherein the service suspension and resuming signal to notify that a frames are not normally transmitted or a frame transmission resumes for the purpose of detecting transmission error and resuming signal as a service start time.

6. Claims 11-15, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Cauffman et al. (US Patent 5,325,290).

As to claim 11, Smith discloses a method of billing service in a telecommunication network comprising the steps of:

Calculating a service suspended period whenever a service suspension occurs during a service and storing the service suspended period (see col.4 lines 12-14); and

Constructing billing data including stored service suspended periods and sending the billing data to a billing processor, when the service ends (see col.3 lines 30-37).

Smith discloses as mention above, however Smiths fail to explicitly disclose storing the service to a unique index

In an analogous art, Cauffman et al. disclose wherein it is advantageous to include storing the service to a unique index (see col.16 lines 45-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Smith such that storing the service to a unique index for the purpose of the consumer or other associated systems ease of record retrieval.

Smith does not mention that the telecommunication network in which the billing service is used is a cellular network. However, that the billing method as taught by Smith could have been adapted to be used in a cellular network since cellular network is just one kind of well known telecommunication network.

As to claim 12, Smith discloses everything as claim 11 above, Smith further discloses the difference between a service suspension start time and a service suspension end time, wherein the service suspension end time is a service resuming time (see col.1 lines 52-63) noncommunicating states corresponding to duration of service suspension start time and end time.

As to claim 13, Smith discloses everything as claim 12 above, Smith further discloses wherein the service suspension end time is a service end time. (see col.1 lines 52-63) noncommunicating states corresponding to duration of service suspension start time and end time.

As to claim 14, Smith discloses everything as claim 13 above, however Smith fails to explicitly disclose wherein the service suspension start time and the service suspension end time are stored according to different indexes.

In an analogous art, Cauffman et al. disclose wherein it is advantageous to include the service suspension start time and the service suspension end time are stored according to different indexes (see col.20 lines 51-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Smith such that the service suspension start time and the service suspension end time are stored according to different indexes for the purpose of the consumer or other associated systems ease of record retrieval.

As to claim 15, Smith discloses everything as claim 11 above, Smith further discloses wherein the billing data further includes the number of service suspension occurrences (see col.3 lines 30-38) record details corresponding to number of service suspension occurrences.

As to claim 21, Smith discloses a method of billing service in a telecommunication network comprising the steps of:

Designating a unique index upon request for service suspension during a service, setting a service suspension request time as a service suspension start time according to the unique index, and suspending the service (see col.3 lines 30-37).

Designating a unique index upon request for service resumption in the service suspended state, setting a service resumption request time as a service suspension end time according to the unique index, and resuming the service (see col. 3 lines 30-37).

Designating a unique index upon request for service termination in the service suspended state, and setting a service termination request times as a service suspension end time (see col. 3 lines 30-37).

Constructing billing data including the service suspension start time and the service suspension end time, sending the billing data to a billing processor, and ending the service (see col.4 lines 11-17).

Smith discloses as mention above, however Smiths fail to explicitly disclose a method of billing service, comprising steps of designating a unique index

In an analogous art, Cauffman et al. disclose wherein it is advantageous to include designating a unique index (see col.16 lines 45-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Smith such that the billing service to include steps of designating unique index for the purpose of the consumer or other associated systems ease of record retrieval.

Smith does not mention that the telecommunication network in which the billing service is used is a cellular network. However, that the billing method as taught by Smith could have been adapted to be used in a cellular network since cellular network is just one kind of well known telecommunication network.

As to claim 22, Smith discloses everything as claim 21 above, Smith further discloses wherein the billing data further includes the number of service suspension occurrences (see abstract).

Conclusion

7. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu Nguyen whose telephone number is (703) 305-3427. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m.*

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached at (703) 308-6739.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 2600 Customer Service Office at (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

TN
March 8, 2002



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